Data Analytics in Professional Sports Annotated Bibliography

Data Analytics in Professional Sports Annotated Bibliography

Grow, Nathaniel. “Free Agency for the Front Office: How Data Analytics and Noncompete

Agreements Threaten to Disrupt Competitive Balance in U.S. Professional Sports Leagues.”

American business law journal 58.1 (2021): 121–162. Web.

Grow examines the effect of data analysis on competition in American professional sports

leagues. His argument is that greater application of data-driven decision-making, and

restraint on noncompete contracts, tilts the league competition advantage in the favor of a

team. His research examines how front office policy informed by analytics is changing the

acquisition of talent and overall management of a team.

Alamar, Ben. Sports Analytics: A Guide for Coaches, Managers, and Other Decision

Makers. New York: Columbia University Press, 2013. Web.

Alamar offers an operational handbook to the incorporation of analytics into management

and coaching decision-making. His work explains how statistical models can assist teams

in achieving optimal performance and outpacing competition. The author emphasizes the

process of transforming raw data into insightful information that will determine game

strategy and player evaluation.

Herberger, Tim A et al. “The Impact of Big Data and Sports Analytics on Professional

Football: A Systematic Literature Review.” Digitalization, Digital Transformation and

Sustainability in the Global Economy. Switzerland: Springer International Publishing AG,

2021. 147–171. Web.

This is a critical evaluation of the way analytics and big data are revolutionizing football in

today's world. Authors examine the effect of various analytical tools on improving player

performance, avoiding injuries, and game day strategy. The study uncovers new trends in

data collection and analysis that are revolutionizing football analytics.

Fried, Gil, and Ceyda Mumcu. Sport Analytics: A Data-Driven Approach to Sport Business

and Management. First edition. United Kingdom: Routledge, 2016. Web.

Data Analytics in Professional Sports Annotated Bibliography

Fried and Mumcu present a business plan for sports analytics, showing the revenue

streams, fan engagement, and sponsorship approach impacted by data-driven decision

making. The book provides genuine uses of analytics used within professional sporting

clubs for ticketing, marketing, and financial management.

Data Analytics in Professional Sports Annotated Bibliography

Jayal, Ambikesh, Giles Oatley, and Allistair McRobert. Sports Analytics: Analysis,

Visualisation and Decision Making in Sports Performance. 1st ed. United Kingdom:

Routledge, 2018. Web.

The book describes how performance data is collected, computed, and reported to

maximize athletic performance. Authors say something regarding the use of technology in

sports analytics, but mainly on live game action process. The book is a manual for teams

and analysts seeking to improve their methodology towards data interpretation.

Knobbe, Arno et al. “Sports Analytics for Professional Speed Skating.” Data mining and

knowledge discovery 31.6 (2017): 1872–1902. Web.

Knobbe and others discuss how data science is transforming speed skating. Predictive

modeling, biomechanical assessment, and optimizing athletic performance at the sport

are outlined. How the research uncovers teams use data to customize training programs

and maximizing effectiveness on the ice is captivating.

Baumer, Benjamin S, Gregory J Matthews, and Quang Nguyen. “Big Ideas in Sports

Analytics and Statistical Tools for Their Investigation.” Wiley interdisciplinary reviews.

Computational statistics 15.6 (2023): e1612-. Web.

Baumer and co-authors simplify the most critical statistical techniques used in sports

analytics. The book covers techniques such as machine learning, predictive modeling, and

Bayesian analysis, all of which are critical in modern sports data analysis. The book is a

requirement to study the technical part of sports analytics.

Schoenfeld, Bruce. Game of Edges: The Analytics Revolution and the Future of

Professional Sports. W.W. Norton and Company, 2023. Print.

Schoenfeld analyzes the manner in which analytics transformed expert sports into different

leagues. He shows how teams following data-driven play have an amount able advantage

compared to their counterparts. The book addresses potential downsides and

shortcomings of increased application of analytics in sports.

Memmert, Daniel, and Dominik Raabe. Data Analytics in Football: Positional Data

Collection, Modelling and Analysis. Second edition. Oxford: Routledge, 2024. Web.

Memmert and Raabe emphasize the use of positional data in football analysis. They

present data collection and modeling approaches with focus on the contribution of

tracking technology towards player development as well as tactical analysis. The book

presents a complete analysis of football-specialized analytical approaches.

Pu, Zhiqiang et al. “Orientation and Decision-Making for Soccer Based on Sports Analytics

and AI: A Systematic Review.” IEEE/CAA journal of automatica sinica 11.1 (2024): 37–57.

Web.

Pu et al. explain how artificial intelligence impacts decision-making in football. They

examine the impact of analytics by AI on game preparation, scouting players, and adjusting

the game strategy. The study finds growing use of automation in sports analytics.

Baumer, B. S., Matthews, G. J., & Nguyen, Q. (2023). Big ideas in sports analytics and statistical tools for their investigation. *Wiley Interdisciplinary Reviews: Computational Statistics, 15(6)*, e1612. doi:10.1002/wics.1612.

Baumer et al. (2023) provide an in-depth exploration of the statistical techniques used in modern sports analytics, with a particular focus on machine learning, predictive modeling, and Bayesian analysis. The authors highlight the growing importance of these methods in interpreting complex datasets and their role in advancing sports analytics across various domains. This work is crucial for understanding the technical foundation of current data-driven practices in sports.

Fried, G., & Mumcu, C. (2016). Sport analytics: A data-driven approach to sport business and management. *Routledge*.

Fried and Mumcu (2016) offer a detailed examination of how data-driven decision-making has revolutionized business practices in professional sports. Their book addresses the impact of analytics on fan engagement, sponsorship deals, and marketing strategies, providing concrete examples of its implementation in sports organizations. This resource is essential for

understanding the business side of sports analytics and how it influences operational strategies.

Jayal, A., Oatley, G., & McRobert, A. (2018). Sports analytics: Analysis, visualisation and decision making in sports performance. *Routledge*.

Jayal et al. (2018) focus on the application of data analytics in enhancing athletic performance, offering insights into how performance data is gathered, processed, and utilized to optimize sports outcomes. The book is a valuable resource for teams and analysts seeking to improve their methodologies for data interpretation and decision-making during live game scenarios.

Schoenfeld, B. (2023). Game of edges: The analytics revolution and the future of professional sports. *W.W. Norton & Company*.

Schoenfeld (2023) analyzes how data analytics has transformed professional sports leagues, emphasizing the competitive advantages gained by teams that integrate data into their strategies. The book also explores the potential risks and limitations of relying too heavily on analytics, including the loss of human intuition and the unpredictable consequences of data-driven decisions. This resource offers a balanced perspective on the role of analytics in sports.